

## POACHING STATISTICS OF *RHINOCEROS UNICORNIS* IN CHITWAN NATIONAL PARK, NEPAL: A REVIEW

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### ABSTRACT

Persistent anthropogenic threats, like excessive use of natural resources and excessive fertilizers, illegal hunting/poaching, habitat fragmentation, population explosion, pollution and unmanaged irrigation system have endangered the existing biodiversity in Nepal. Anthropogenic activities nowadays are a serious threat to the forest areas as well as wildlife worldwide. These anthropogenic activities are causing widespread loss of wildlife and hence have been a serious concern for conservationists. Among all man caused disturbances towards wildlife the most threatening is the poaching and illegal trade which has not only made the animal vulnerable but has put a great question on its survival value.

**KEYWORDS:** *Rhinoceros Unicornis*, Chitwan National Park, UNESCO

### INTRODUCTION

Poaching is an illegal harvesting of the wildlife species which has many ecological and social consequences on the nature and the management of natural resources. Since, 1980; the term poaching has been referred to be as an illegal harvesting of the species. The illegal hunting/ poaching can negatively impact the population of animals as it might cause local extinctions, reduces genetic variability, decline genetic trophy size and hunting opportunities and alter sex-ratios and age structures (Colt man et al., 2003). There is an international ban on trade in wildlife products especially from the endangered species which includes fur, hides, horns, tusk, live specimens and herbal products. Despite, illegal trade has not been stopped because the animal products worth millions of dollar. Poaching and illegal trade of wildlife has become an organized, lucrative and a capital intensive business, with trafficking routes extending from remote national parks and reserves, where animals are trapped and killed, to major urban centers where they are sold and consumed (Good all, 2011). Poaching and illegal wildlife trade have become the most serious and immediate threats to many of Asia's charismatic and iconic species, such as tiger, rhino and elephant.

The over exploitation of resources by humans has threatened about one-third of the endangered species of vertebrates (Primack, 1998). Understanding the causes of poaching is difficult when the hunter and hunting are unclear and to know the factors that accelerate or deter poaching is necessary for effective management (Shivik, 2006). Poaching is one of the serious threats impacting the survival of wild animals especially the mammals. The drivers of poaching includes human wildlife conflict and this ethno-civil rivalry has created negative effect on wildlife especially on the mammals so there is an urgent need for preserving the nature and natural wild species.

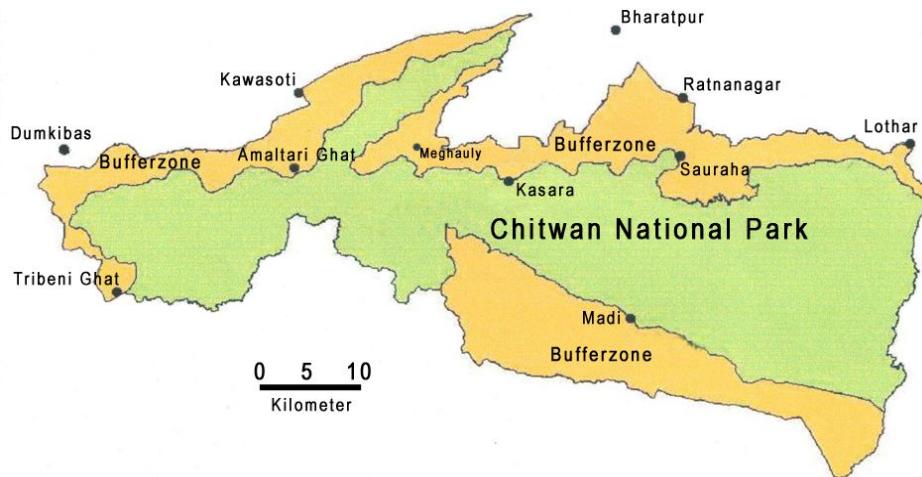
Poaching is not a new problem in Nepal. In Nepal, the history reveals that the poaching has been the serious issue since long time back. With the purpose of protecting wild species national park, reserve, and conservation areas have been established in Nepal, especially for the management and conservation of endangered flora and fauna. Despite, many

species are in the state of danger because of prolonged exploitation, pollution, habitat destruction, poaching & human and livestock pressures in natural habitats (Government of Nepal, 2002). Many wild species are illegally killed in Nepal and various studies have revealed it. The most adverse effect of poaching however is seen especially in Mammals.

## STUDY AREA

The Chitwan National Park (CNP) is situated at the foot of the Himalayas in the southern part of Nepal covering an area of 932 km<sup>2</sup> and a 750 km<sup>2</sup> of buffer zone (Upadhyay, 2009). Formally known as Royal Chitwan national park, it was declared as natural heritage site by UNESCO in the year 1984 and is the first protected area of Nepal. CNP is rich in flora and fauna and is home to the magnificent animals like single-horned Asiatic rhinoceros and tiger. The Park area includes endangered mammalian species like one horned rhinoceros (*Rhinoceros unicornis*), elephant (*Elephas maximus*), tiger (*Panthera tigris*), sloth bear (*Melursus ursinus*), gaur (*Bos gaurus*), leopard (*Panthera pardus*), four horned antelope (*Tetracerus quadricornis*), Gangetic dolphin (*Platanista gangeticus*), spotted linsang (*Prionodon pardicolor*) (KMTNC, 1996).

The wildlife has been an integral part of the park because it has attracted many tourists from all over the world but the animals like rhinos are in the state of danger in Chitwan National Park (CNP) because of poaching and habitat loss.



**Figure 1: Chitwan National Park, Nepal (Source, CNPO)**

### Poaching Statistics of One Horned Rhino (*Rhinoceros Unicornis*) in CNP

The Greater One-horned Rhinoceros is the most enduring symbol of Nepal's rich biological heritage (DNPWC, 2009). The rhino population trend in Nepal till date shows the fluctuation and the recent reporting census (National Rhino Count, 2015) reveal that the estimated rhinos in whole Nepal are 645 in numbers (605 in Chitwan National Park (CNP), 29 in Bardia National Park (BNP), 8 in Shuklaphanta Wildlife Reserve (SWR) and 3 in Parsa Wildlife Reserve (PWR)). Chitwan National Park (CNP) holds the second largest global population of wild greater one-horned rhino in South Asia (Talukdar, 2014). Rhinoceros poaching continued in Chitwan Valley since 1950s. Chitwan National Park has been protecting the animal from that time when the number of rhino was only 100 during 1960s. The population trend of rhinos shows the fluctuation and the major threats to rhino is because of Poaching. Recent report states that poaching has come out to be zero and the country have been celebrating the "Zero Poaching Year" since three years despite the future of rhinos is uncertain because of its high demand in the international market. An on-going rhino poaching is the most serious threat

to the survival of rhinoceros in CNP (CNP, 2012). *Rhinoceros unicornis*, one horned rhinos is one of the 26 protected mammals of Nepal.

#### Hunting Measures adopted by Poachers in Chitwan National Park (CNP)

The past study shows that there are various methods that have been used by poachers in Chitwan National Park. These include shooting with firearms, pit trapping, spearing, snaring, poisoning and electrocuting. Pit method is the method in which the rhino gets trapped in a pit that has been dug on the trail of rhino. The pits are also made to trap or kill the particular animals especially on the area where the animals frequently travel. They are covered with the grass or sticks so as to confuse the animals or give camouflage. Others include tow-chain, rifles, wire nooses and heavy spears. Even some report explains that the poisons are also used during poaching, though is rarely used. In 1999, more than nine rhinos were poisoned in the Chitwan Valley. The chlorinated hydrocarbons are used as a poison and specifically it is found spraying into foods of rhinos. The firearms, usually musket or rifle were very common during the year 1999 and 2000. Using Spears in killing wild animals though have been ineffective but are found using to hunt wild animals. In 1999, spear had been used to hunt rhino nearby CNP in Baghmara community forest but it left the animal wounded so the poachers hardly use spears. Similarly, the use of snares was found to be used for trapping the small animals. The common method is Electrocution method applied to hurt and kill wild animals and is used in the fences or wires for the animals like bears, deer and wild boars. The main purpose of using electrocution method is to prevent problematic wild animals from crop raiding but sometimes by accident, the larger animals like rhinos get trapped, injured or even is killed. The report of 1997 collected from Nawalparasi district states that four rhinos were killed by the electrocution method. The recent news in the year 2014 shows that the wild animals are even shoted by gun. In the year 2014, soon after the celebration of Second "Zero Poaching year" by Nepal, rhino has been found dead in the Chitwan National Park (CNP), apparently killed by wildlife smugglers. The poachers killed the rhino in the Dobhan Buffer Zone Community Forest in Jagatpur VDC in night. The CNP officials and Nepal Army personnel found the dead rhino with its horns severed. The smugglers had used a sharp weapon to remove the horn. A .303 rifle bullet was found between the eyes and ears of the rhino. The CNP also stated that they had found five used .303 bullet shells 250 meters from the site (<http://kathmandupost.ekantipur.com>). The past report further stated that the wildlife was killed especially during evening and night time or in absence of patrolling.

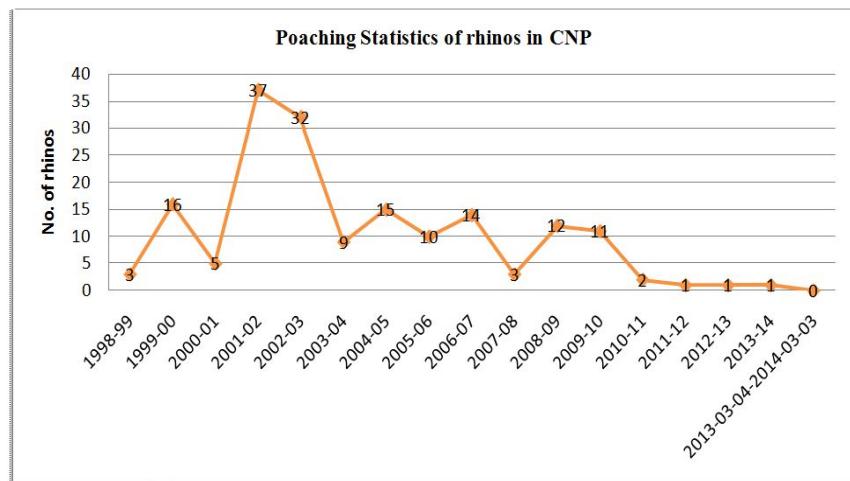


Figure 2: Poaching Statistics of Rhinos in CNP (Source: CNPO)

### **Steps toward Combating Poaching**

The Nepal government has launched the conservancy system in which rights over wildlife devolved to local communities to provide wildlife conservation and poverty alleviation. Leader-Williams et al., (1990) has explained that survival of species whose body parts are of commercial value is problematic. It has been proved recently, that the joint collaboration and efforts between local community and park personnel can give productive results. Nepal has recently achieved the landmark in the history of conservation as continuously for three years it has been celebrating "Zero Poaching year" first in 2011, second in 2014, and third in 2015.

Introducing the patrolling of Nepalese army, anti-poaching units (APUs) and the motives given to the local people in terms of reward in case of providing information about illicit activities and to combat poaching/illegal hunting have been the effective steps towards conservation(HMGN/DNPWC, 2003). Poaching or trade in wildlife products continue to pose a serious threat to the whole country. The deployment of Nepalese army battalion inside the Park has served as a great psychological deterrent. There is no doubt that the initiation of anti-poaching units has lowered the rates of poaching but it is not so effective in managing as a whole. Moreover, there is a query that poachers over a period of time may get used to with the situation of anti- poaching patrols and formulate more effective ambiguous strategies. Though, Government has put an effort to deter poaching and illegal trade in wildlife products by providing employment and rewarding the informants for helping or assisting to arrest the poachers and illegal dealers' poverty remains at the root cause of poaching in Chitwan, Nepal. Thus, either increasing an opportunity cost of crime through imposed wage elsewhere or increasing the probability management measures is needed along with the severity of the punishment/penalty (Leader-Williams, 1993). Moreover, it has been found from the past record that poaching pressure is often high in those places where the areas are remote and patrolling is less or where there is less chances of being caught (Knapp et al., 2010) so additional security serves an additional benefit to the conservation goals.Besides,there is still an urgent need for integrated and continued monitoring of poaching activities and further interventions at the wildlife-agricultural interface.

The greatest problem for anti-poaching operations in case of Nepal seems to be the lack of adequate funding for the intelligence-gathering networks, which is very effectual against poaching. In order to minimize the pressure of poaching, the educational awareness programme should be held to make the people conscious regarding the importance of biodiversity, their preservation and the strong collaboration.

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